abcam

ab317833

Anti-MST antibody [EPR29168-60]

Recombinant | RabMAb | KO Validated | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR29168-60
Purification technique	Affinity purification Protein A
Concentration	0.524 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Dot

Tested

Species	Recombinant fragment - Human
Dilution info	1/1000
Notes	-

Expected

Species	Human, Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/500
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Recombinant fragment - Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/500
Notes	-

Expected

Species	Mouse, Rat

Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Recombinant fragment - Human
Dilution info	-
Notes	-

IP

Tested

Species	Human
Dilution info	1/30
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Recombinant fragment - Human
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000
Notes	-

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Rat
Dilution info	1/1000
Notes	-

Not recommended

Species	Recombinant fragment - Human
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/5000
Notes	Perform heat-mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

Species	Mouse
Dilution info	1/2000
Notes	Perform heat-mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

Species	Rat
Dilution info	1/2000
Notes	Perform heat-mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

Not recommended

Species	Recombinant fragment - Human
Dilution info	-

Notes	-

Target data

See full target information MPST

Function	Transfer of a sulfur ion to cyanide or to other thiol compounds. Also has weak rhodanese activity. Detoxifies cyanide and is required for thiosulfate biosynthesis. Acts as an antioxidant. In combination with cysteine aminotransferase (CAT), contributes to the catabolism of cysteine and is an important producer of hydrogen sulfide in the brain, retina and vascular endothelial cells. Hydrogen sulfide H(2)S is an important synaptic modulator, signaling molecule, smooth muscle contractor and neuroprotectant. Its production by the 3MST/CAT pathway is regulated by calcium ions.

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	MST also known as Mammalian Sterile 20-like kinase or STK3 is a serine/threonine kinase with a molecular mass of about 60 kDa. MST is expressed in various tissues including the brain liver and skeletal muscle. This kinase functions mechanically by phosphorylating downstream substrates exerting control over cell proliferation apoptosis and cytoskeletal reorganization. Alternate names like 3-MST also exist which can sometimes lead to confusion regarding its precise identity among similar kinases.
Biological function summary	MST plays a significant role in the regulation of the Hippo signaling pathway particularly as a core component of the MST kinase complex. This complex interacts with several other proteins to control organ size and suppress tumor development by regulating the balance between cell division and apoptosis. MST kinases exert influence on cell cycle checkpoints and promote cellular apoptosis aiding in the maintenance of tissue homeostasis.
Pathways	MST proteins are essential within the Hippo signaling pathway and are integrally involved in modulating the MAPK pathway. MST interacts with proteins like LATS1/2 activating them to help mediate the phosphorylation of downstream effectors including YAP and TAZ in the Hippo pathway. These interactions lead to transcriptional changes that govern cell proliferation and apoptosis highlighting MST's role in ensuring proper cellular responses to external and internal stimuli.
Associated diseases and disorders	MST dysregulation is closely linked to cancers and neurodegenerative diseases. In cancer MST's inability to regulate cell growth can result in uninhibited cell proliferation as seen in hepatocellular carcinoma where MST's interaction with YAP becomes dysfunctional. In neurodegenerative disorders particularly Alzheimer's disease pathways involving MST and related proteins such as MARK may contribute to pathological tau hyperphosphorylation leading to neuronal damage. Understanding MST's relation to these diseases aids in targeting therapeutic interventions.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

We do not recommend this combination. It is not covered by our product promise.

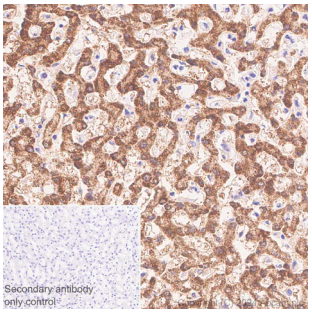
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

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13 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MST antibody [EPR29168-60] (ab317833)

Immunohistochemical analysis of paraffin-embedded Human liver tissue labeling MST with ab317833 at 1/5000 (0.102 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

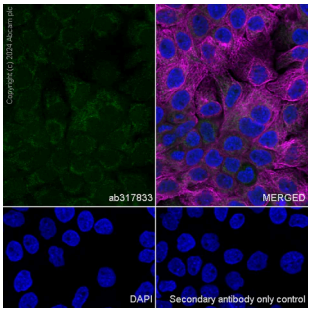
Positive staining on human liver. The section was incubated with ab317833 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Citrate buffer (pH 6.0, Epitope Retrieval Solution 1) for 10 mins

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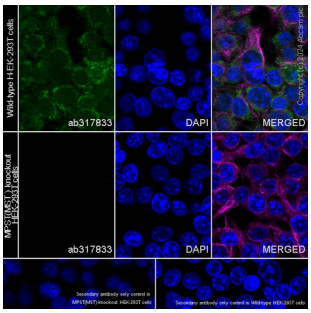
Immunocytochemistry/ Immunofluorescence - Anti-MST antibody [EPR29168-60] (ab317833)

Immunofluorescent analysis of 100% methanol-fixed, 0.1% TritonX-100 permeabilized A431 (human epidermoid carcinoma epithelial cell) cells labelling MST with ab317833 at 1/500 (1.018 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 2 ug/ml dilution (Green).

Confocal image showing mainly cytoplasmic staining in A431 cells (shown in green). The counterstain was observed in magenta. Nuclear DNA was labelled with DAPI (shown in blue). Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 2.5ug/ml dilution (Magenta). The Nuclear counterstain was DAPI (Blue).

Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2 ug/ml dilution.



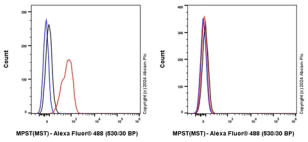
Immunocytochemistry/ Immunofluorescence - Anti-MST antibody [EPR29168-60] (ab317833)

Immunofluorescent analysis of 100% methanol-fixed, 0.1% TritonX-100 permeabilized MPST (MST) KO HEK-293T (MPST(MST) knockout human embryonic kidney epithelial cell), ab266789 cells labelling MST with ab317833 at 1/500 (1.018 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 2 ug/ml dilution (Green).

Confocal image showing mainly cytoplasmic staining in wildtype HEK-293T cells and negative staining in MPST (MST) knockout HEK-293T cells (shown in green). The counterstain was observed in magenta. Nuclear DNA was labelled with DAPI (shown in blue). Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 2.5ug/ml dilution (Magenta). The Nuclear counterstain was DAPI (Blue).

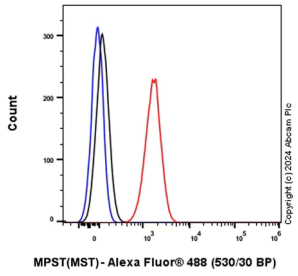
Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2 ug/ml dilution.



Flow Cytometry (Intracellular) - Anti-MST antibody [EPR29168-60] (ab317833)

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized Wild-type HEK293T (human embryonic kidney epithelial cell, Left) / MPST(MST) knockout HEK293T (Right) cells labelling MST with ab317833 at 1/500 dilution (0.1 ug)/Red (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue).

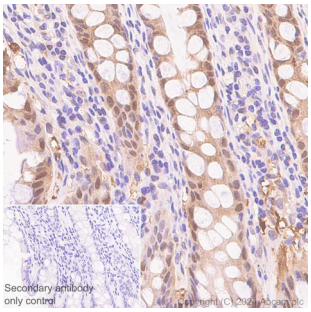
Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody.



Flow Cytometry (Intracellular) - Anti-MST antibody [EPR29168-60] (ab317833)

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized A431 (human epidermoid carcinoma epithelial cell) cells labelling MST with ab317833 at 1/500 dilution (0.1 ug)/Red (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue).

Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MST antibody [EPR29168-60] (ab317833)

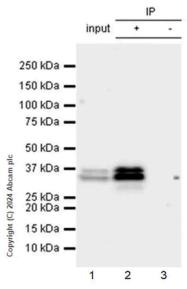
Immunohistochemical analysis of paraffin-embedded Human colon tissue labeling MST with ab317833 at 1/5000 (0.102 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on human colon. The section was incubated with ab317833 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Citrate buffer (pH 6.0, Epitope Retrieval Solution 1) for 10 mins



Immunoprecipitation - Anti-MST antibody [EPR29168-60] (ab317833)

MST was immunoprecipitated from 0.35 mg 293T (human embryonic kidney epithelial cell) whole cell lysate with ab317833 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab317833 at 1/1000 dilution. VeriBlot for IP secondary antibody(HRP)(ab131366) was used at 1/5000 dilution.

Lane 1: 293T (human embryonic kidney epithelial cell) whole cell lysate
Lane 2: ab317833 IP in 293T (human embryonic kidney epithelial cell) whole cell lysate
Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab317833 in 293T whole cell lysate

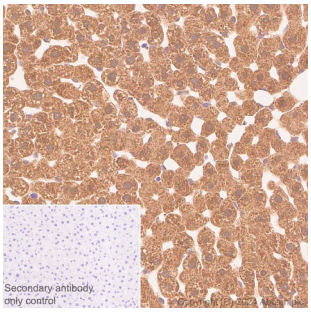
All lanes:
Immunoprecipitation - Anti-MST antibody [EPR29168-60] (ab317833) at 1/30 dilution

All lanes:
293T (human embryonic kidney epithelial cell) whole cell lysate

Secondary

All lanes:
Immunoprecipitation - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/5000 dilution

Exposure time: 24s



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MST antibody [EPR29168-60] (ab317833)

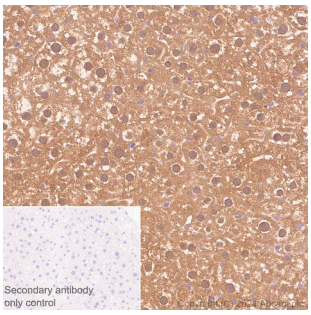
Immunohistochemical analysis of paraffin-embedded Rat liver tissue labeling MST with ab317833 at 1/2000 (0.255 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on rat liver. The section was incubated with ab317833 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Citrate buffer (pH 6.0, Epitope Retrieval Solution 1) for 10 mins



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MST antibody [EPR29168-60] (ab317833)

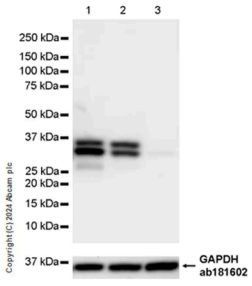
Immunohistochemical analysis of paraffin-embedded Mouse liver tissue labeling MST with ab317833 at 1/2000 (0.255 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on mouse liver (PMID: 27973427). The section was incubated with ab317833 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Citrate buffer (pH 6.0, Epitope Retrieval Solution 1) for 10 mins



Western blot - Anti-MST antibody [EPR29168-60] (ab317833)

MST Western blot staining using rabbit Anti-MST antibody

Low expression: MOLT-4 (PMID: 35204649).

The identity of the lower MW band at approximately 27 kDa (in lane 1) is unknown.

In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) staining at 1/200000 dilution.

All lanes:
Western blot - Anti-MST antibody [EPR29168-60] (ab317833) at 1/1000 dilution

Lane 1:
Human lung tissue lysate at 20 µg

Lane 2:
K-562 (human chronic myelogenous leukemia lymphoblast) whole cell lysate at 20 µg

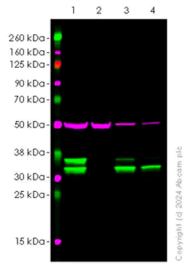
Lane 3:
MOLT-4 (human lymphoblastic leukemia t lymphoblast) whole cell lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG (HRP) with minimal cross-reactivity with human IgG at 1/2000 dilution

Observed band size: 33 kDa, 35 kDa, 36 kDa

Exposure time: 3s



Western blot - Anti-MST antibody [EPR29168-60] (ab317833)

MST Western blot staining using rabbit Anti-MST antibody

The samples were run on a Bis-Tris gel under reducing conditions.

Western blot: Anti-MST antibody (ab317833) staining at 1/1000 dilution, shown in green; Mouse anti-alpha Tubulin antibody [DM1A] (ab7291) loading control staining at 1/20, 000 dilution, shown in magenta.

In Western blot, ab317833 was shown to bind specifically to MST. Target of interest was observed at 33 kDa and 35 KDa in wild-type HEK-293T cell lysates (lane 1) with no signal observed at these sizes in MPST (MST) knockout cell line (lane 2, knockout cell line ab266789 / knockout cell lysate ab258524). To generate this image, samples were first run on an SDS-PAGE gel then transferred onto an immobilon-FL PVDF membrane. Membranes were blocked in a fluorescent western blot (TBS-based) blocking solution before incubation with primary antibodies overnight at 4 °C. Blots were washed in TBS-T, incubated with secondary antibodies Goat anti-Rabbit IgG H&L 800CW and Goat anti-Mouse IgG H&L 680RD at 1/20000 dilution for 1 h at room temperature, washed again then imaged.

All lanes:
Western blot - Anti-MST antibody [EPR29168-60] (ab317833) at 1/1000 dilution

Lane 1:
Wild-type HEK-293T (human embryonic kidney epithelial cell) whole cell lysate at 20 µg

Lane 2:
MPST (MST) knockout HEK-293T whole cell lysate at 20 µg

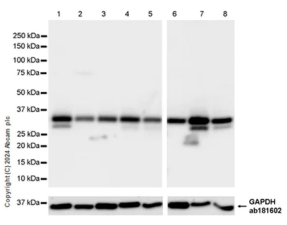
Lane 3:
HT-29 (human colorectal adenocarcinoma epithelial cell) whole cell lysate at 20 µg

Lane 4:
A431 (human epidermoid carcinoma epithelial cell) whole cell lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG H&L (800CW) and Goat Anti-Mouse IgG H&L (680RD) at 1/20000 dilution

Observed band size: 33 kDa, 35 kDa



Western blot - Anti-MST antibody [EPR29168-60] (ab317833)

MST Western blot staining using rabbit Anti-MST antibody

Low expression: lung (PMID: 29712741).

In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) staining at 1/200000 dilution.

Exposure time: Lanes 1-5: 1 second; Lanes 6-8: 3 seconds.

All lanes:
Western blot - Anti-MST antibody [EPR29168-60] (ab317833) at 1/1000 dilution

Lane 1:
Mouse liver tissue lysate at 20 µg

Lane 2:
Mouse lung tissue lysate at 20 µg

Lane 3:
Mouse brain tissue lysate at 20 µg

Lane 4:
Rat liver tissue lysate at 20 µg

Lane 5:
Rat lung tissue lysate at 20 µg

Lane 6:
F9 (mouse embryonal carcinoma epithelial cell) whole cell lysate at 20 µg

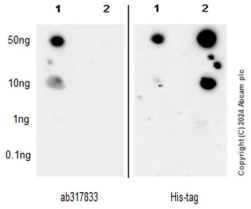
Lane 7:
mIMCD3 (mouse inner medullary collecting duct epithelial cell) whole cell lysate at 20 µg

Lane 8:
Neuro-2a (mouse neuroblastoma neuroblast) whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Observed band size: 33 kDa, 35 kDa, 36 kDa



Dot Blot - Anti-MST antibody [EPR29168-60] (ab317833)

MST Dot Blot staining using rabbit Anti-MST antibody

Dot blot analysis of MST using ab317833 at 1:1000 (0.509 ug/ml) followed by a Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ab97051) at 1:100,000 dilution.

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

This antibody does not cross-react with human TST.

Anti-His tag® antibody (1:10000) as total protein control.

All lanes:
Dot Blot - Anti-MST antibody [EPR29168-60] (ab317833) at 1/1000 dilution

Lane 1:
His-tagged human MST fragment

Lane 2:
His-tagged human TST fragment

Secondary

All lanes:
Dot Blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Exposure time: 3s

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.